



## Scrub Oak Shrubland

**Community Code:** CT2B1F1000

**State Rank:** S2



**Concept:** A shrubland dominated by scrub oak, with essentially no pitch pine (stems are very scattered if present), although within Pitch Pine - Scrub Oak Communities.

**Environmental Setting:** Scrub Oak Shrublands are dense shrublands, dominated by shrub oaks forming almost impenetrable thickets ranging from 2-3 feet (about 1m) to greater than 6 feet (2m) in height. They occur on sandplains, usually in depressions where localized frosts keep out competing trees, and on ridge tops. Disturbances in both environments maintain mosaics in space and time of grassland and heathland openings, shrublands, Pitch Pine - Scrub Oak Communities, and oak/pine forest. Scrub Oak Shrublands are dry with few nutrients available, since neither sand nor shallow soils on bedrock hold water or nutrients. Besides frosts that damage competing tree species, fires that eliminate or significantly reduce trees establish and maintain Scrub Oak Shrublands. Because the component shrub species both foster and are adapted to fire, Scrub Oak Shrublands are considered to be fire-dependent communities; scrub oak and heath species resprout readily after fires. It is likely that in the past this community burned under a variety of conditions, including during droughts and possibly during the growing season as well as the dormant season, so that structural and compositional variation may have been greater than what we see today. In addition, scrub oak communities seldom occur on land that has been plowed; even a hundred years after agricultural abandonment, many vegetatively reproducing plants are missing from the vegetation on previously plowed lands.

**Vegetation Description:** Scrub Oak Shrublands are dominated by shrub oaks, scrub oak (also called bear oak) (*Quercus ilicifolia*) and dwarf chinquapin oak (*Quercus prinoides*), that together



have at least 40% cover. Sparse (<10% cover) tree species may include pitch pine (*Pinus rigida*), red or black oak (*Quercus rubra* or *velutina*), gray birch (*Betula populifolia*), and quaking aspen (*Populus tremuloides*). Other characteristic plants include black huckleberry (*Gaylussacia baccata*), lowbush blueberry (*Vaccinium angustifolium*), early sweet blueberry (*Vaccinium pallidum*), black chokeberry (*Aronia melanocarpa*), sheep laurel (*Kalmia angustifolia*), and sweet fern (*Comptonia peregrina*), along with Pennsylvania sedge (*Carex pensylvanica*), little bluestem (*Schizachyrium scoparium*), poverty grass (*Danthonia spicata*), cow wheat (*Melampyrum lineare*), bracken fern (*Pteridium aquilinum*), bearberry (*Arctostaphylos uva-ursi*), and areas of lichens (*Cladina* and *Cladonia* spp.).

**Differentiating Occurrences:** Scrub Oak Shrublands occur within Pitch Pine - Scrub Oak Communities, particularly in frost bottoms and frost pockets, and on ridge tops near Ridgetop Pitch Pine - Scrub Oak Communities. May be in a matrix with Sandplain Heathlands. Scrub Oak Shrublands are dominated by dense shrub oaks and lack pitch pine, on sand and on bedrock. Pitch Pine - Scrub Oak Communities have up to about 25% cover by pitch pine trees, are on sand or gravel, tend to be large, and have most of the same species. Ridgetop Pitch Pine - Scrub Oak Communities have scattered stunted pitch pine and dense scrub oak, and usually have little bare rock. They are on bedrock ridgetops. Ridgetop Heathlands lack abundant scrub oak and pitch pine, have large areas dominated by fairly continuous cover (>50%) of low shrubs, usually lowbush blueberry, and have little exposed bedrock. Rocky summit/rock outcrop communities are dominated by bare or lichen-covered rock. Identifying community types on rock outcrops is complicated by mixing of types in mosaics and overlap of constituent species. Very small occurrences of any community types should be considered to be parts of the prevailing community.

**Associated Fauna:** Scrub Oak Shrublands provide similar shrub habitat to the Pitch Pine - Scrub Oak Community often surrounding a shrubland. Species in Scrub Oak Shrublands include rare, as well as more common, moths and butterflies that are dependent on oaks and members of the blueberry family. Scrub Oak Shrublands in southeastern Massachusetts are being increasingly managed for New England cottontail (*Sylvilagus transitionalis*), which benefits other species that use the protection dense shrubs offer for nesting and resting, including Prairie Warbler (*Dendroica discolor*), which is declining throughout its range due to habitat loss. Common Yellowthroat (*Geothlypis trichas*), which nest in dense tangled vegetation, are very common in some scrub oak areas. Large mammals tend to avoid the dense shrub thickets.

**Public Access:** Middlesex Fells, Medford; Myles Standish State Forest, Plymouth; Lovell's Lane Conservation Area, Mashpee; Manuel F. Correllus State Forest, West Tisbury.

**Threats:** Development and fragmentation of the entire systems.

**Management Needs:** Experiments are needed to ascertain the fire dependence/sensitivity of the community and its dependent species.



**USNVC/NatureServe:**

Nature Serve Systems: CES202.600 Central Appalachian Pine-Oak Rocky Woodland and CES203.269 Northern Atlantic Coastal Plain Pitch Pine Barrens. *Quercus ilicifolia* Shrubland Alliance -- *Quercus ilicifolia*-*Quercus prinoides* Shrubland [CEGL006111] and *Quercus ilicifolia* - *Prunus pumila* Shrubland [CEGL006121].